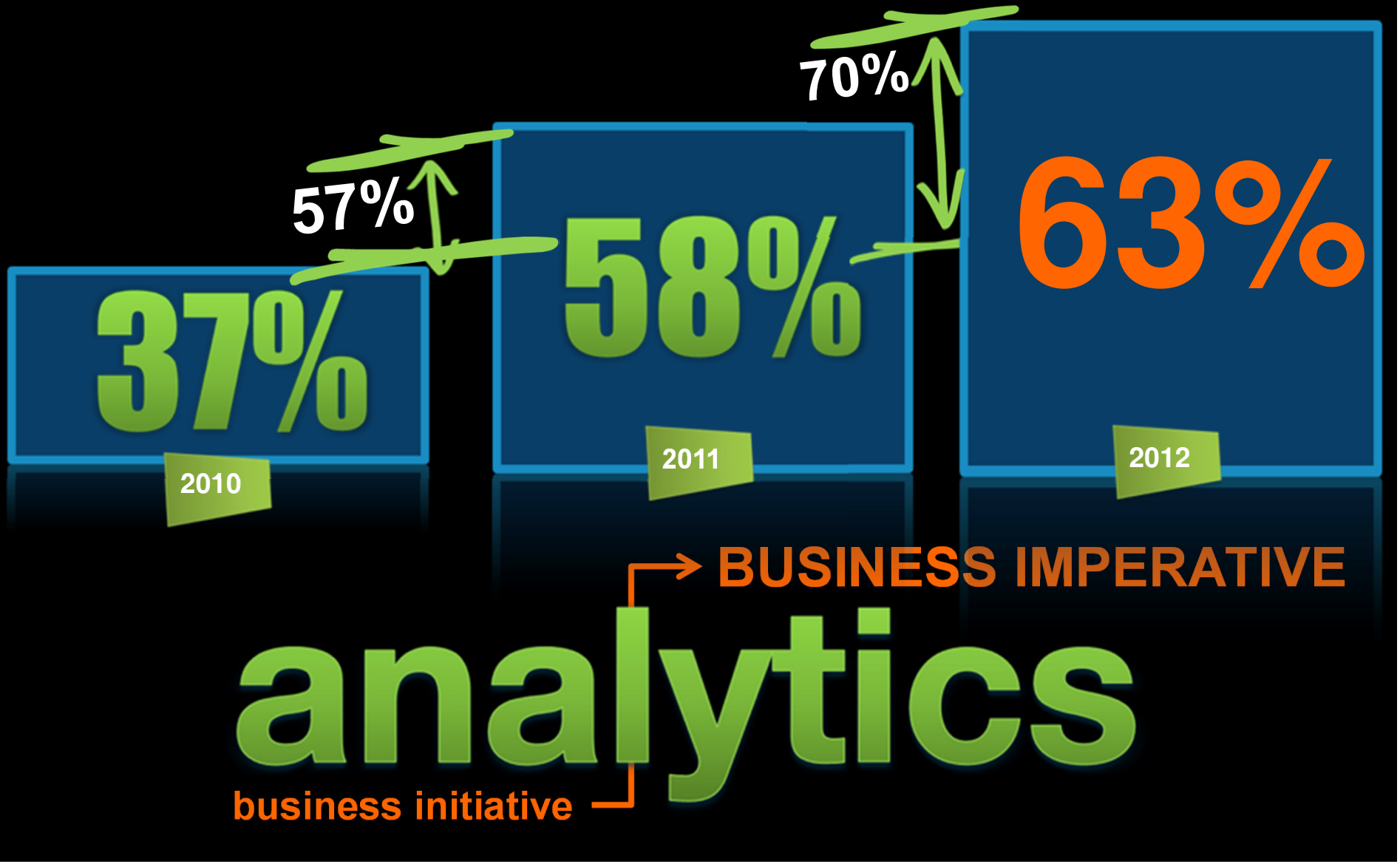
IBM SolutionsConnect 2013
Turning Opportunity into Outcomes.

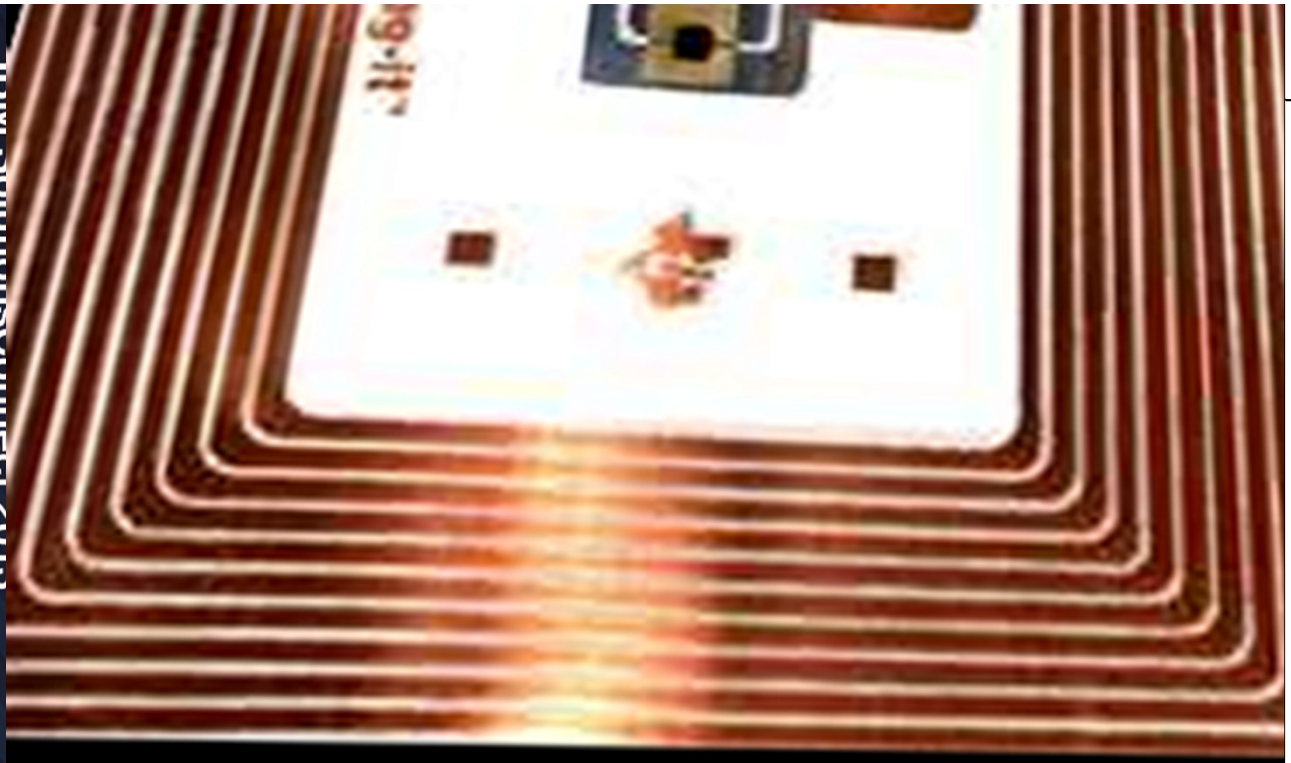
# The big deal about big data

Patrick Billens

# The number of organizations who see analytics as a competitive advantage is growing.



IBM delivers a governable, consumable Big Data platform that's steeped in analytics for data in-motion and data at-rest.



In 2005 there were 1.3 billion RFID tags in circulation…

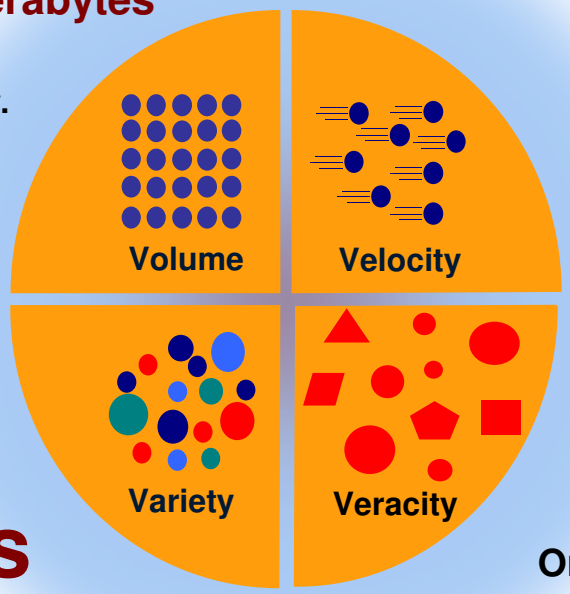
…by the end of 2011, this was about 30 billion and growing even faster

# The Social Layer in an Instrumented Interconnected World

# We've Moved into a New Era of Computing

**12+ terabytes**
of Tweets create daily.

**5+ million**
trade events per second.




**100's**
of different types of data.

**Only 1 in 3**
decision makers trust their information.

# The Big Data Conundrum

- **The economies of deletion have changed….**
  - Leading us into new opportunities and challenges
- **The percentage of available data an enterprise can analyze is decreasing proportionately to the available to that enterprise**
  - Quite simply, this means as enterprises, we are getting "more naive" about our business over time
- **Just collecting and storing "Big Data" doesn't drive a cent of value to an organization's bottom line**

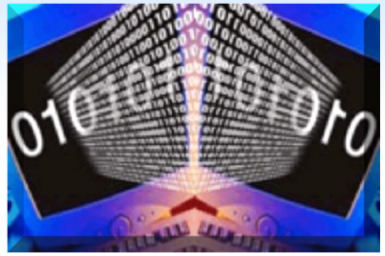
# Applications for Big Data Analytics

## Smarter Healthcare

## Multi-Channel

## Finance

## Log Analysis




## Homeland Security


## Traffic Control

## Telecom

## Search Quality

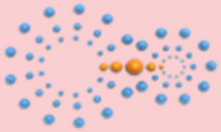

## Manufacturing

## Trading Analytics

## Fraud and Risk

## Retail: Churn, NBO

# The Big Data Platform Manifesto

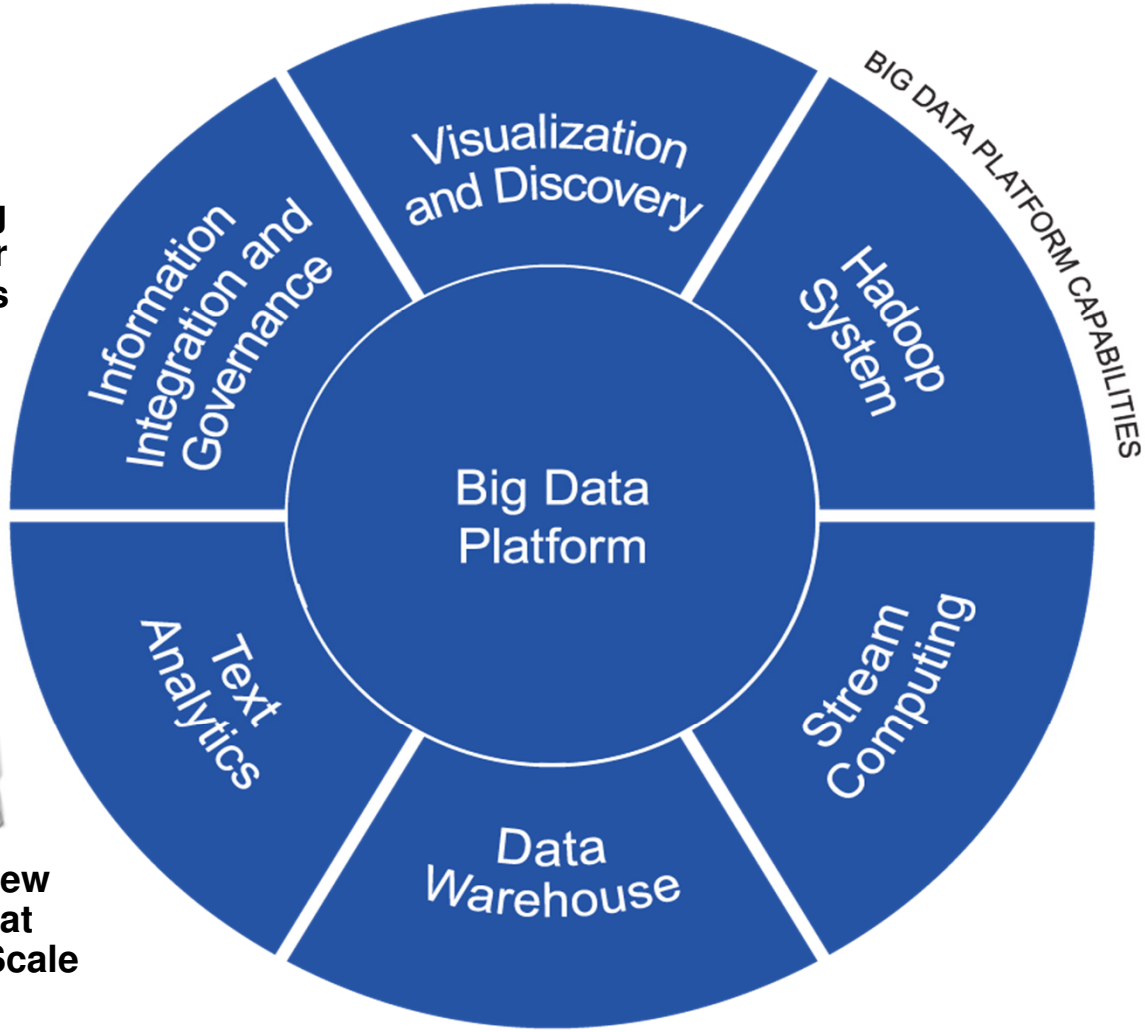
| | | |
|---|---|---|
| Understand and Navigate Federated Big Data Sources |  | Federated Discovery and Navigation |
| Manage and Store Huge Volume of any Data |  | Hadoop File System MapReduce |
| Structure and Control Data |  | Data Warehousing |
| Manage Streaming Data |  | Stream Computing |
| Analyze Unstructured Data |  | Text Analytics Engine |
| Integrate and Govern all Data Sources |  | Integration, Data Quality, Security, ILM, MDM |

# Entry Points to a Big Data Project

**Know Everything about Your Customers**

**Run Zero-latency Operations**

**Innovate New Products at Speed and Scale**




**Exploit Instrumented Assets**

**Instant Awareness**

# A recent Institute for Business Value study highlights how organizations are adopting big data in four phases


## Big data adoption

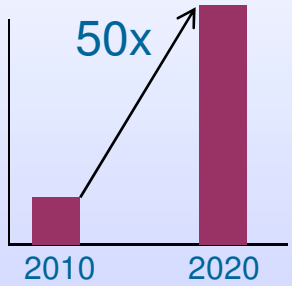
| Educate | Explore | Engage | Execute |
|---|---|---|---|
| Focused on knowledge gathering and market observations | Developing strategy and roadmap based on business needs and challenges | Piloting big data initiatives to validate value and requirements | Deployed two or more big data initiatives and continuing to apply advanced analytics |
| Percentage of total respondents 24% | Percentage of total respondents 47% | Percentage of total respondents 22% | Percentage of total respondents 6% |

When segmented into four groups based on current levels of big data activity, respondents showed significant consistency in organizational behaviors

Total respondents n = 1061
Totals do not equal 100% due to rounding

# The characteristics of big data

Cost efficiently processing the growing Volume




**35 ZB**

Responding to the increasing Velocity

**30 Billion** RFID sensors and counting

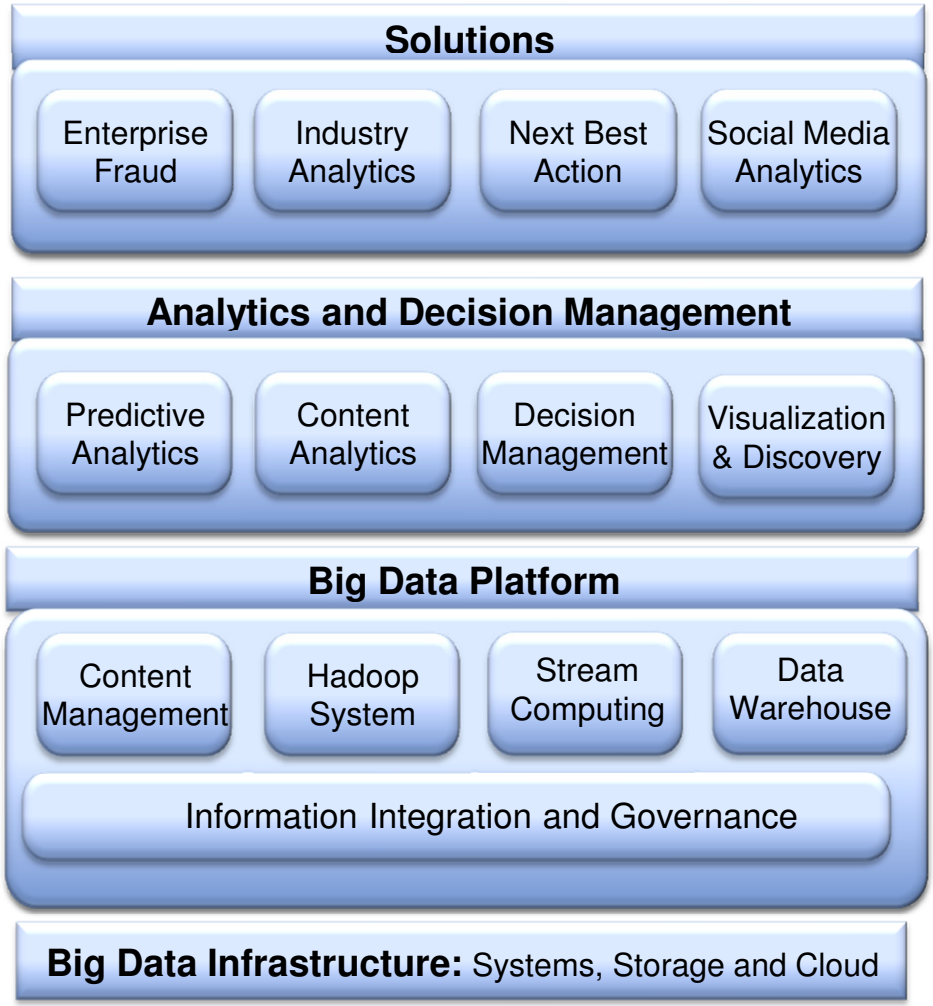
Collectively Analyzing the broadening Variety

**80%** of the worlds data is unstructured

Establishing the Veracity of big data sources

**1 in 3** business leaders don't trust the information they use to make decisions

# IBM provides a holistic and integrated approach to big data and analytics




**Enabling organizations to:**

Discover and assemble relevant information

Analyze patterns and predict outcomes

Visualize and explore for answers

Take action and automate processes

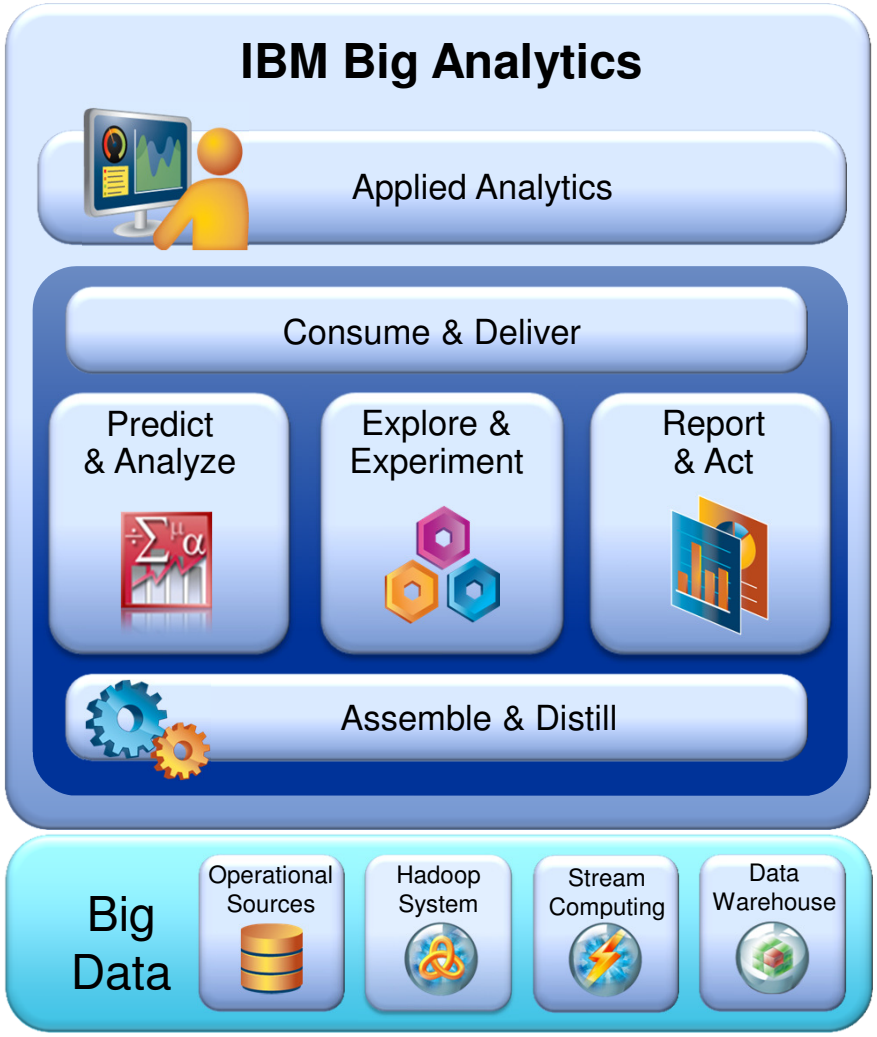
Optimize analytical performance and IT costs

Manage, govern & secure information

# IBM Big Analytics

Next wave of analytics harnesses the value of the new mix of information

- Visualize and explore the variety, velocity and volume of big data
- Apply advanced analytics to uncover patterns previously hidden
- Blend traditional structured information with data previously unavailable
- Optimize access and delivery to take insight to action
- Extend existing capabilities to address specific analytic applications



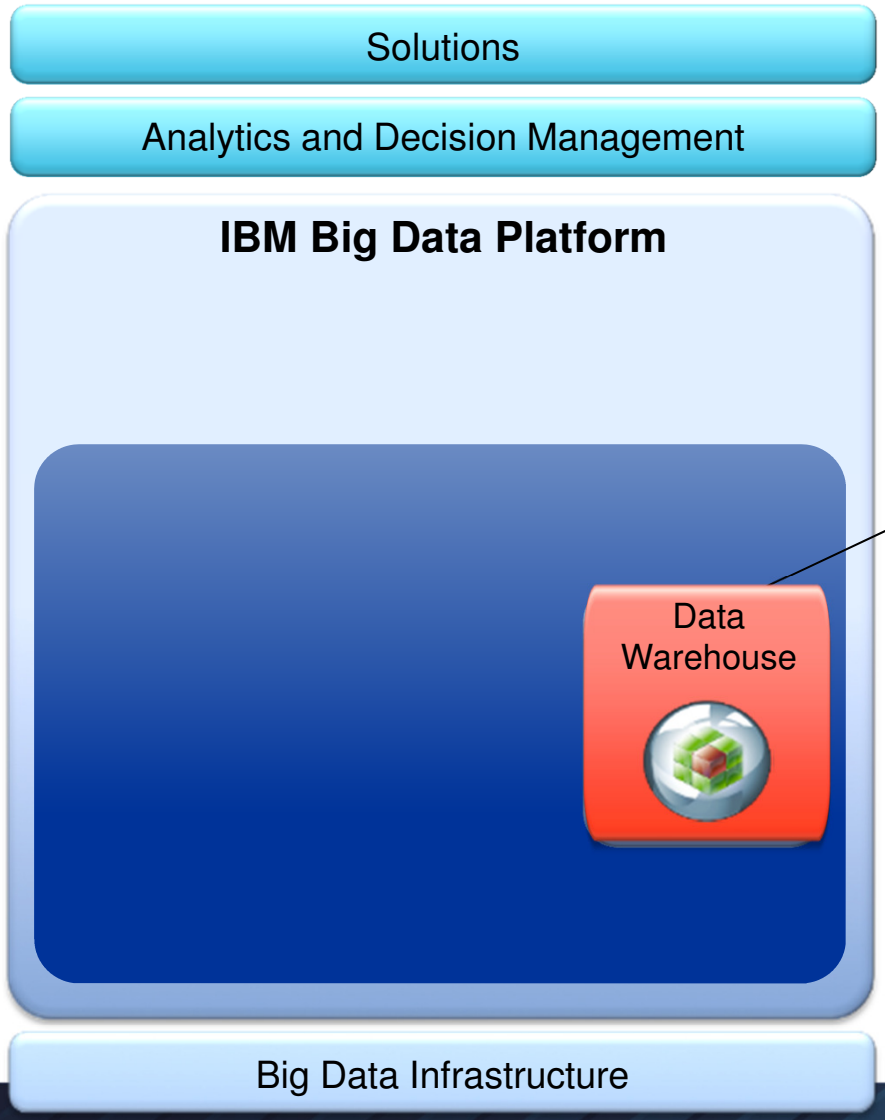
# Big Data Platform
# Move the Analytics Closer to the Data

New analytic applications drive the requirements for a big data platform

- Integrate and manage the full variety, velocity and volume of data
- Apply advanced analytics to information in its native form
- Visualize all available data for ad-hoc analysis
- Development environment for building new analytic applications
- Workload optimization and scheduling
- Security and Governance

# The IBM Big Data Platform

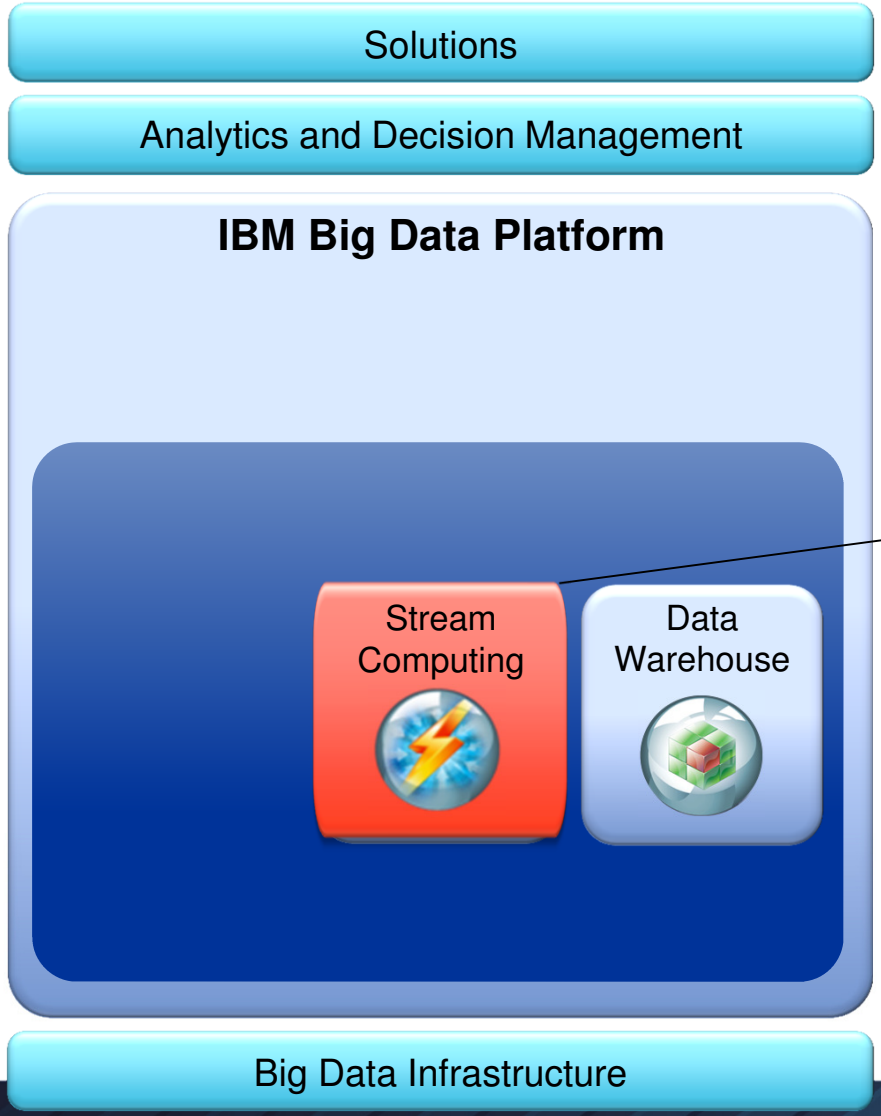
# The IBM Big Data Platform




***Delivers deep insight with advanced in-database analytics & operational analytics***

- **PureData System** – expert integrated systems to make deep and operational analytics faster & simpler
- **InfoSphere Warehouse** -- data warehouse software to access operational info in real time

# The IBM Big Data Platform



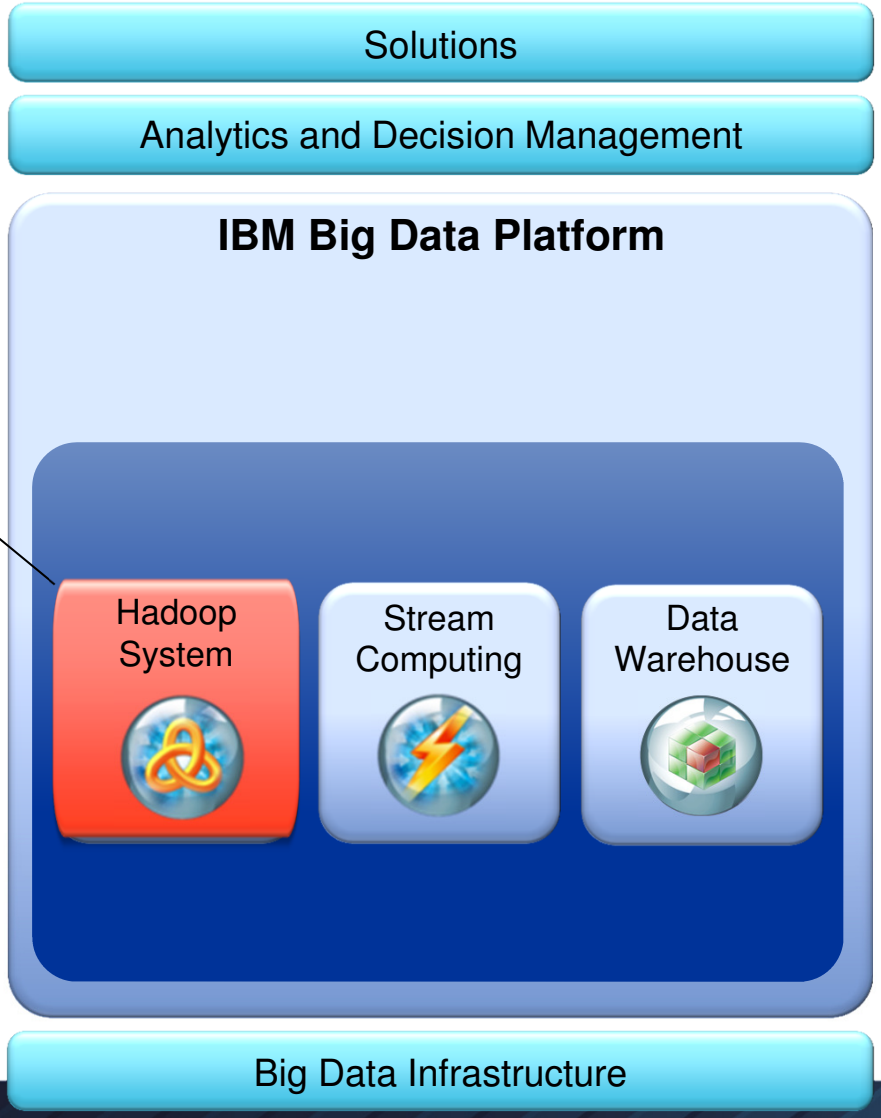

***Analyze streaming data and large data bursts for real-time insights***

- **InfoSphere Streams** – software enabling continuous analysis of massive volumes of streaming data with sub-millisecond response times

# The IBM Big Data Platform

***Cost-effectively analyze Petabytes of unstructured and structured data***

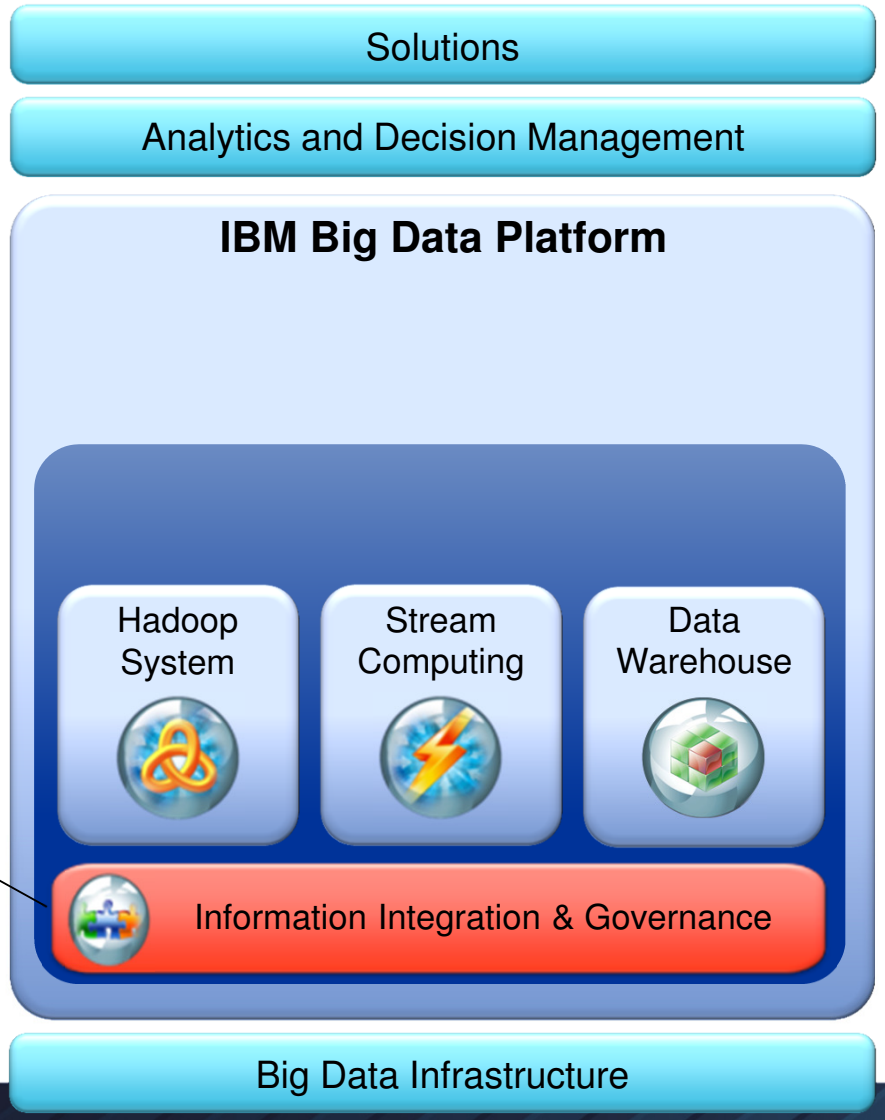
- **InfoSphere BigInsights --** enterprise-grade Hadoop system enhanced with advanced text analytics, data visualization, tools, & performance features for analyzing massive volumes of structured and unstructured data.



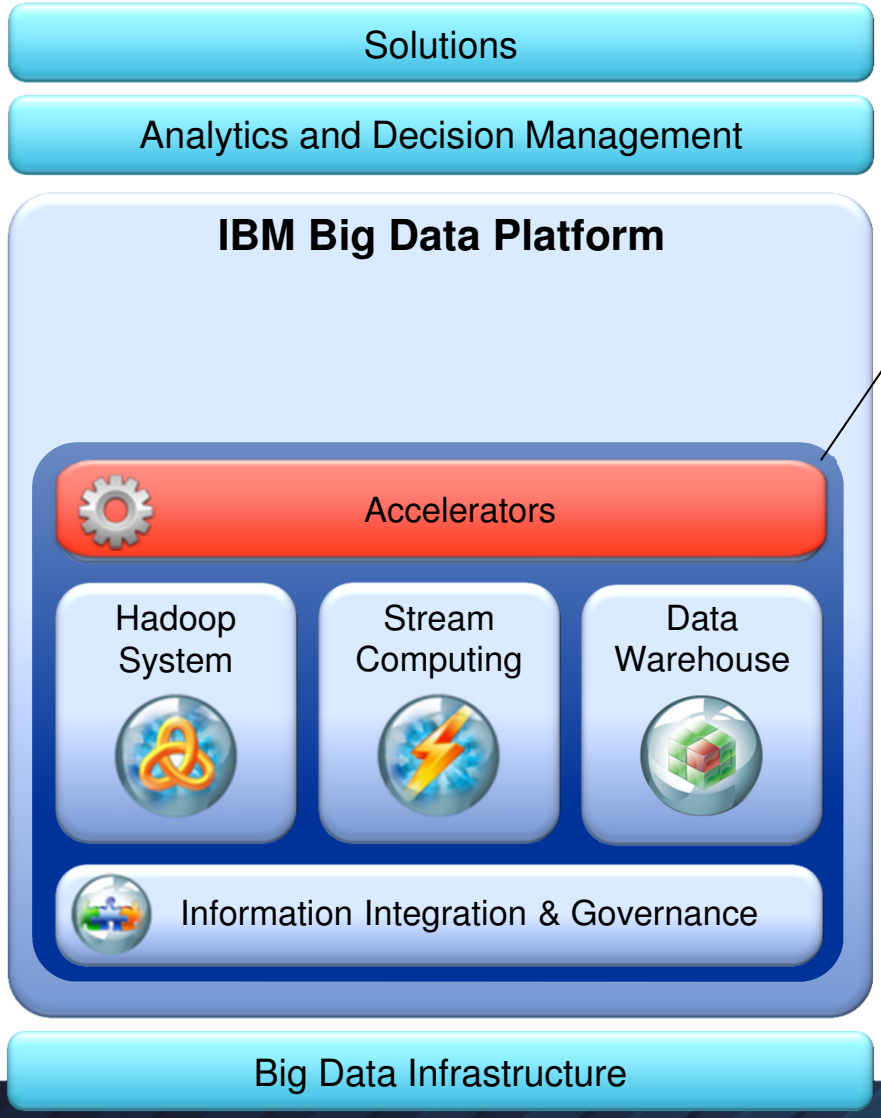
# The IBM Big Data Platform

***Govern data quality and manage the information lifecycle***

- **InfoSphere Information Server** –Cleanses data, monitors quality and integrates big data with existing systems
- **InfoSphere Optim** – manages business information throughout its lifecycle
- **InfoSphere Master Data Management** – manages and maintains trusted views of master and reference data
- **InfoSphere Guardium** – real-time database security and monitoring



# The IBM Big Data Platform



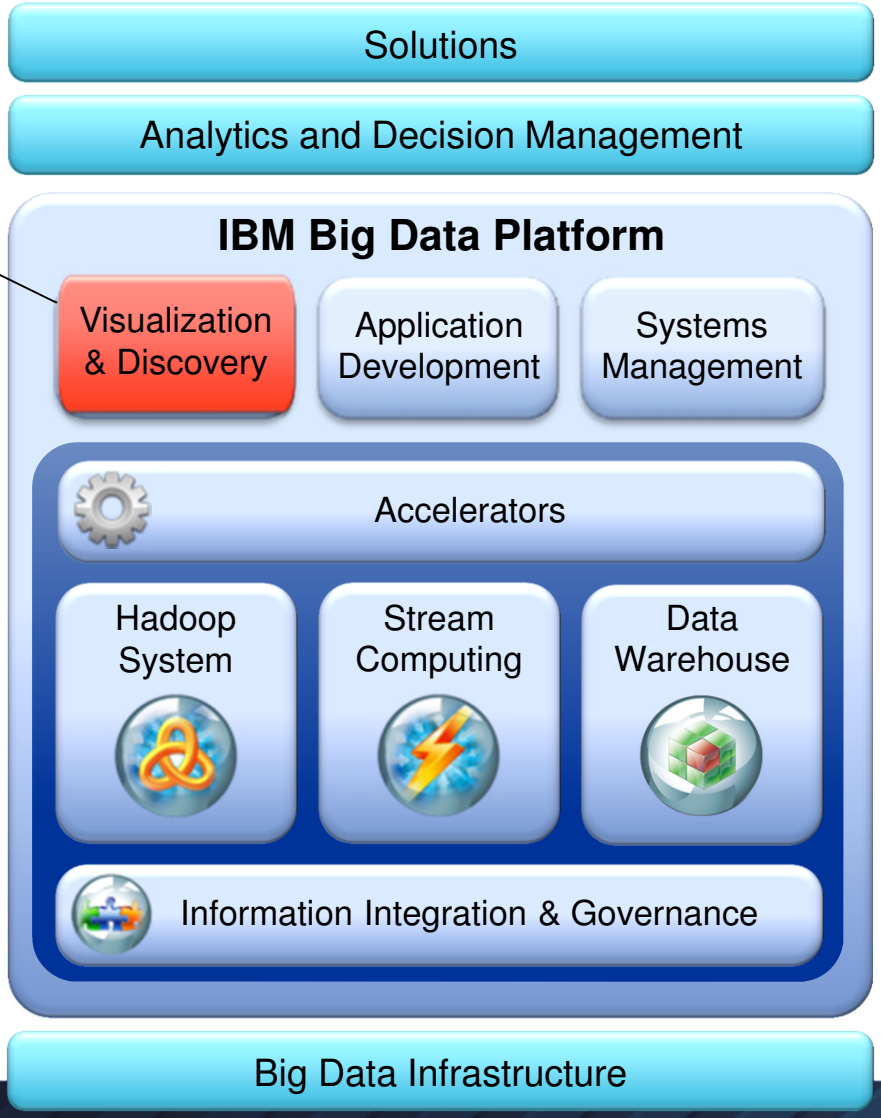

***Speed time to value with analytic and application accelerators***

- **Analytic Accelerators** – text analytics, geospatial, time-series, data mining
- **Application Accelerators** – financial services, machine data, social data, Telco event data
- **Industry Models** - comprehensive data models based on deep expertise and industry best practice

# The IBM Big Data Platform

***Discover, understand, search, and navigate federated sources of big data***

- **InfoSphere Data Explorer** – Discovery and navigation software that provides real-time access and fusion of big data with rich and varied data from enterprise applications for greater insight



# The IBM Big Data Platform

## Process any type of data

Structured, unstructured, in-motion, at-rest

Built-for-purpose **engines**

Designed to handle different requirements

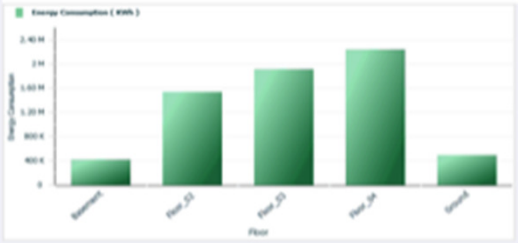
Analyze **data in motion**

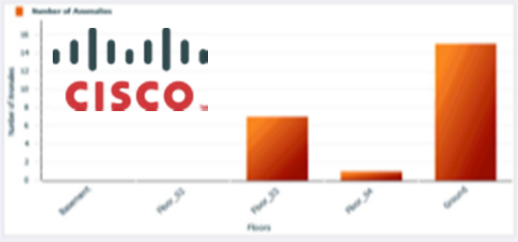
Manage and **govern** data in the ecosystem

Enterprise data integration

## Grow and evolve on current infrastructure

# Cisco turns to IBM big data for intelligent infrastructure management

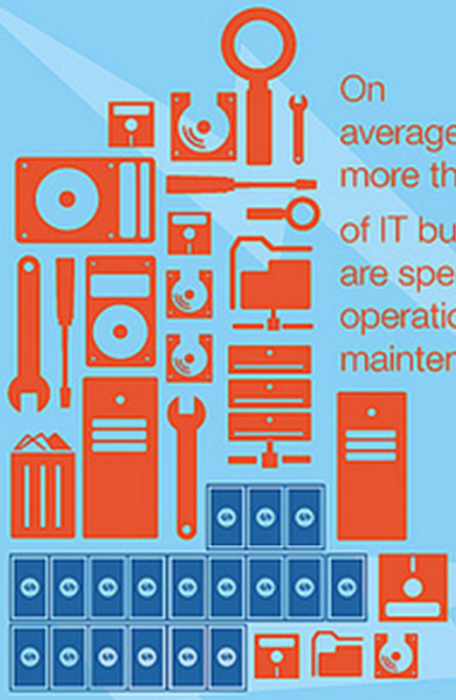



- **Optimize building energy consumption with centralized monitoring and control of building monitoring system**
- **Automates preventive and corrective maintenance of building corrective systems**
- **Uses Streams, InfoSphere BigInsights and Cognos**
  - Log Analytics
  - Energy Bill Forecasting
  - Energy consumption optimization
  - Detection of anomalous usage
  - Presence-aware energy mgt.
  - Policy enforcement

# IT headaches

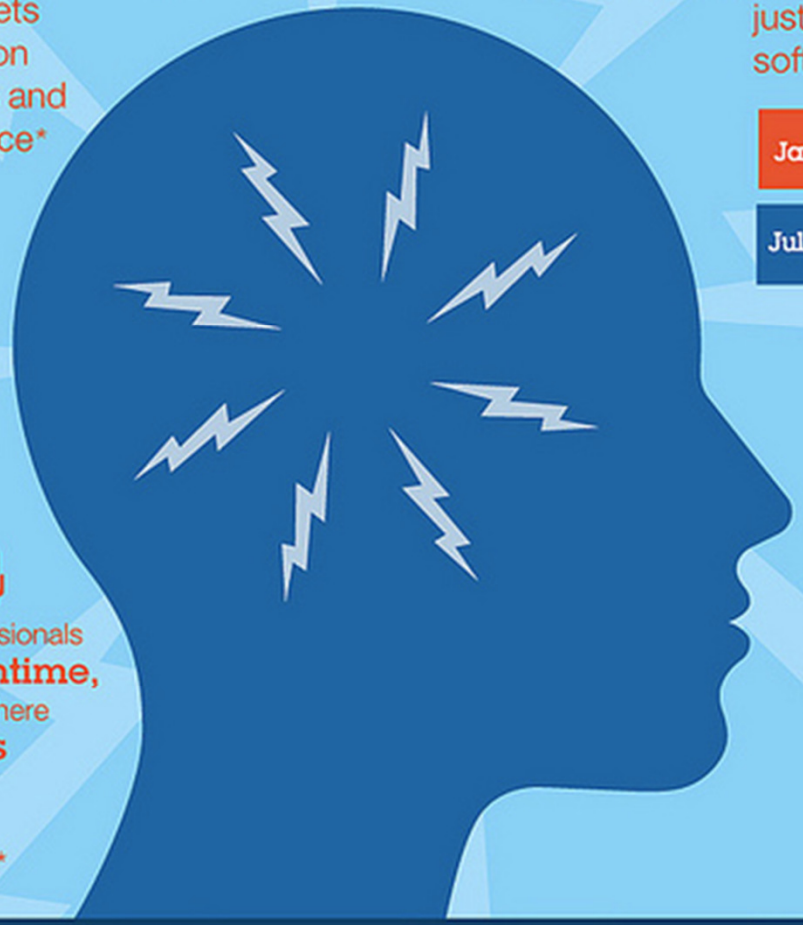
IT professionals face unnecessary delays and costs as they deploy, maintain and update their capabilities.



On average, more than **70%** of IT budgets are spent on operations and maintenance*

It can take up to **4 to 6 months** just to establish hardware and software infrastructure **

| | | | | | |
|---|---|---|---|---|---|
| Jan | Feb | Mar | Apr | May | June |
| July | Aug | Sept | Oct | Nov | Dec |



**55%** of IT professionals **experience downtime,** that can last from anywhere **between minutes to over a week** when performing an infrastructure upgrade **

Nearly **2/3** of organizations fall behind schedule when deploying new IT capabilities ***

Sources: * IDC,Analyst Matt Eastwood, IDC Directions Presentation, 2011
** From a commissioned study conducted by Forrester Consulting on behalf of IBM in 2011
*** IBM Market Insights Study - 2011 Business Benchmarking Time-to-Value Study

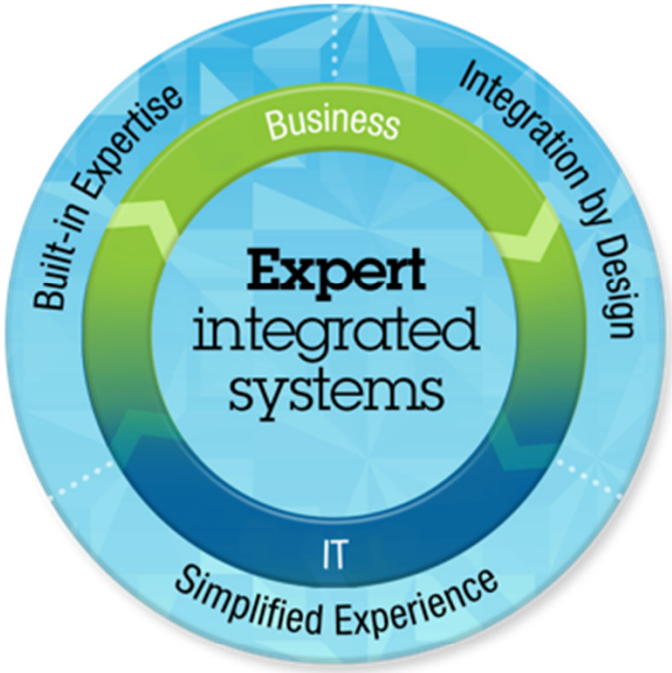
IBM

# A New Family of Expert Integrated Systems

PureSystems

*Systems with integrated expertise and built for cloud*

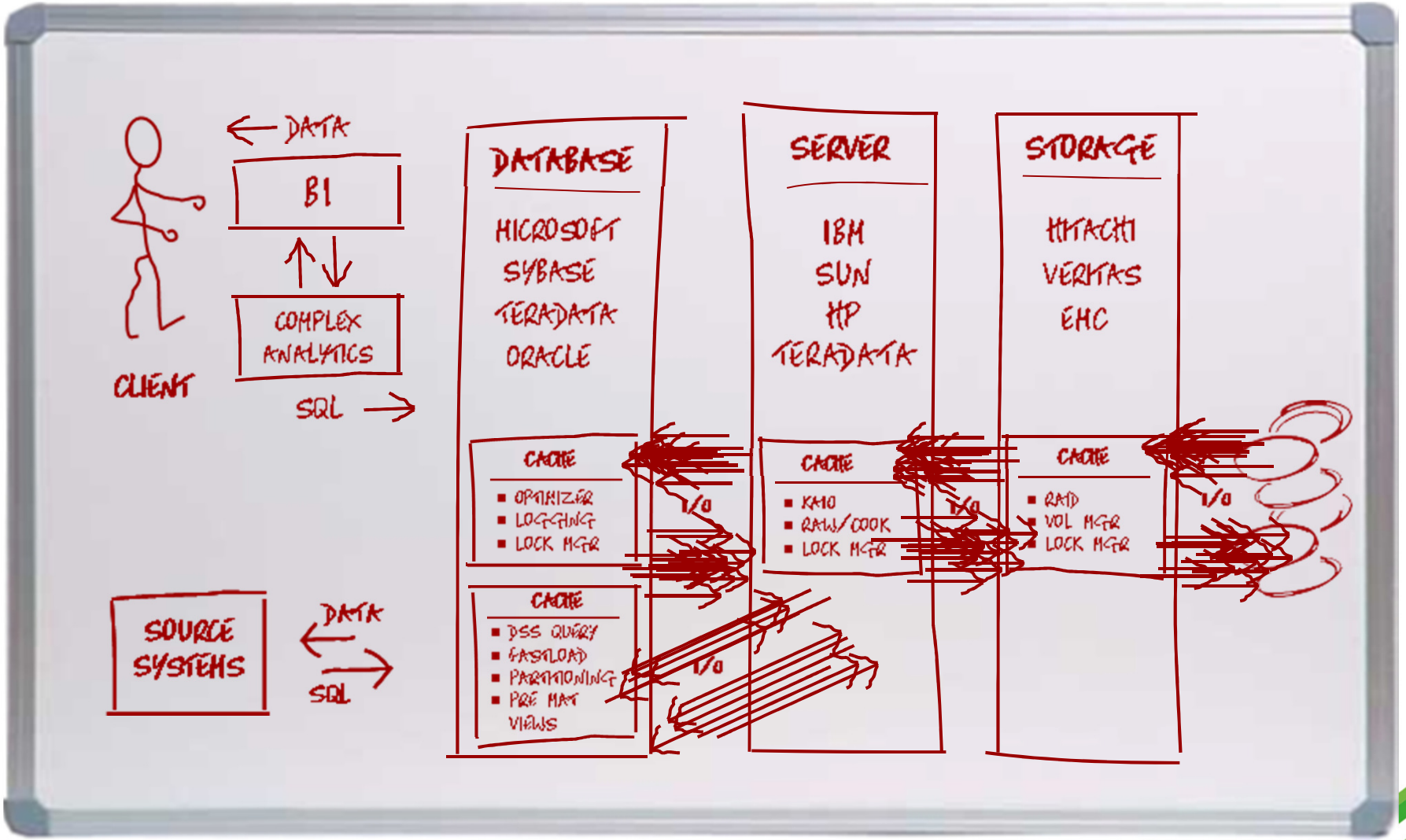
**Built-in Expertise**
***Capturing and automating what experts do*** – from the infrastructure patterns to the application patterns



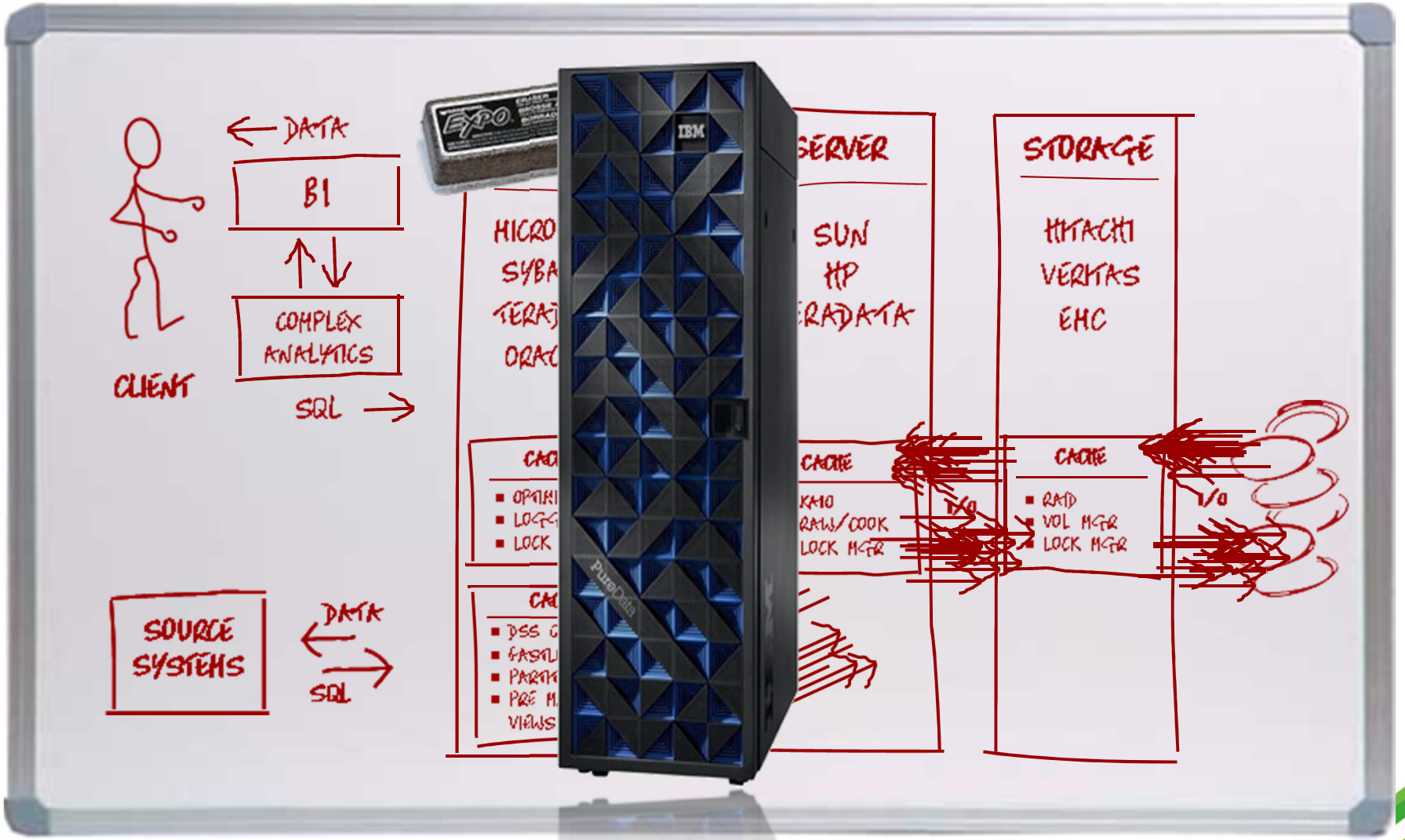

**Integration by Design**
***Deeply integrating and tuning hardware and software*** – in a ready-to-go workload optimized system

**Simplified Experience**
***Making every part of the IT lifecycle easier -*** with integrated management of the entire system and a broad open ecosystem of optimized solutions

# Traditional Data Warehouse Complexity



# Let's Simplify This…



# … Move Analytics into the Warehouse with a TRUE Appliance

# Deep Analytics Appliance – Revolutionized Analytics

## Purpose-built analytics appliance

**Speed:** 10-100x faster than traditional systems

**Simplicity:** Minimal admin/mgt. and tuning

**Scalability:** Peta-scale user data capacity

**Smart:** High-performance advanced analytics

**30%** increase in coupon redemption rates

**70x** more queries on **5x** data

Delivering personalized coupons to shoppers in real time

Store and access 400B market basket records to provide personalized experience

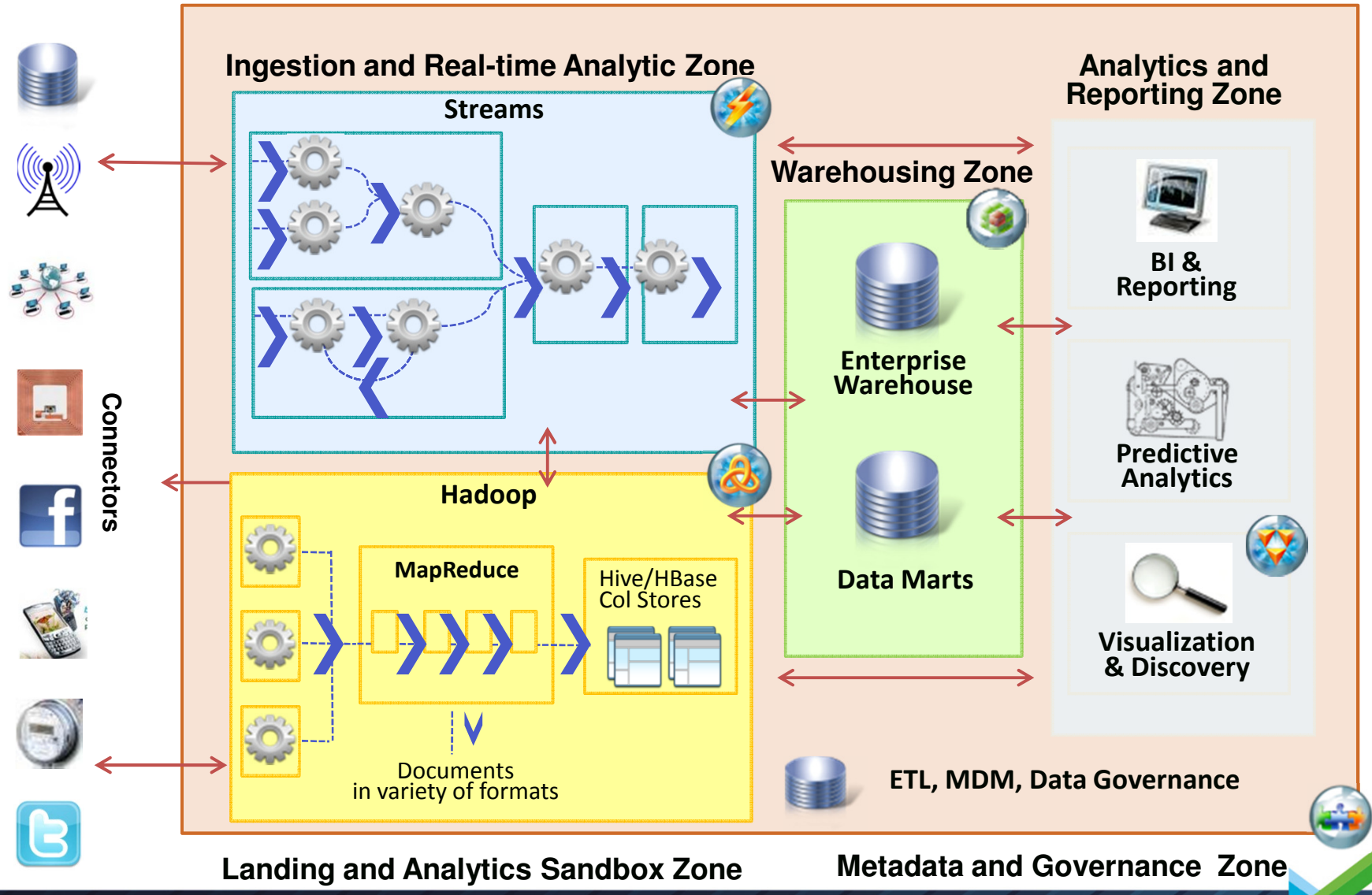
600 predictive models per year, 10X as many as before

*"Because of (Netezza's) in-database technology, we believe we'll be able to do 600 predictive models per year (**10X** as many as before) **with the same staff**."*

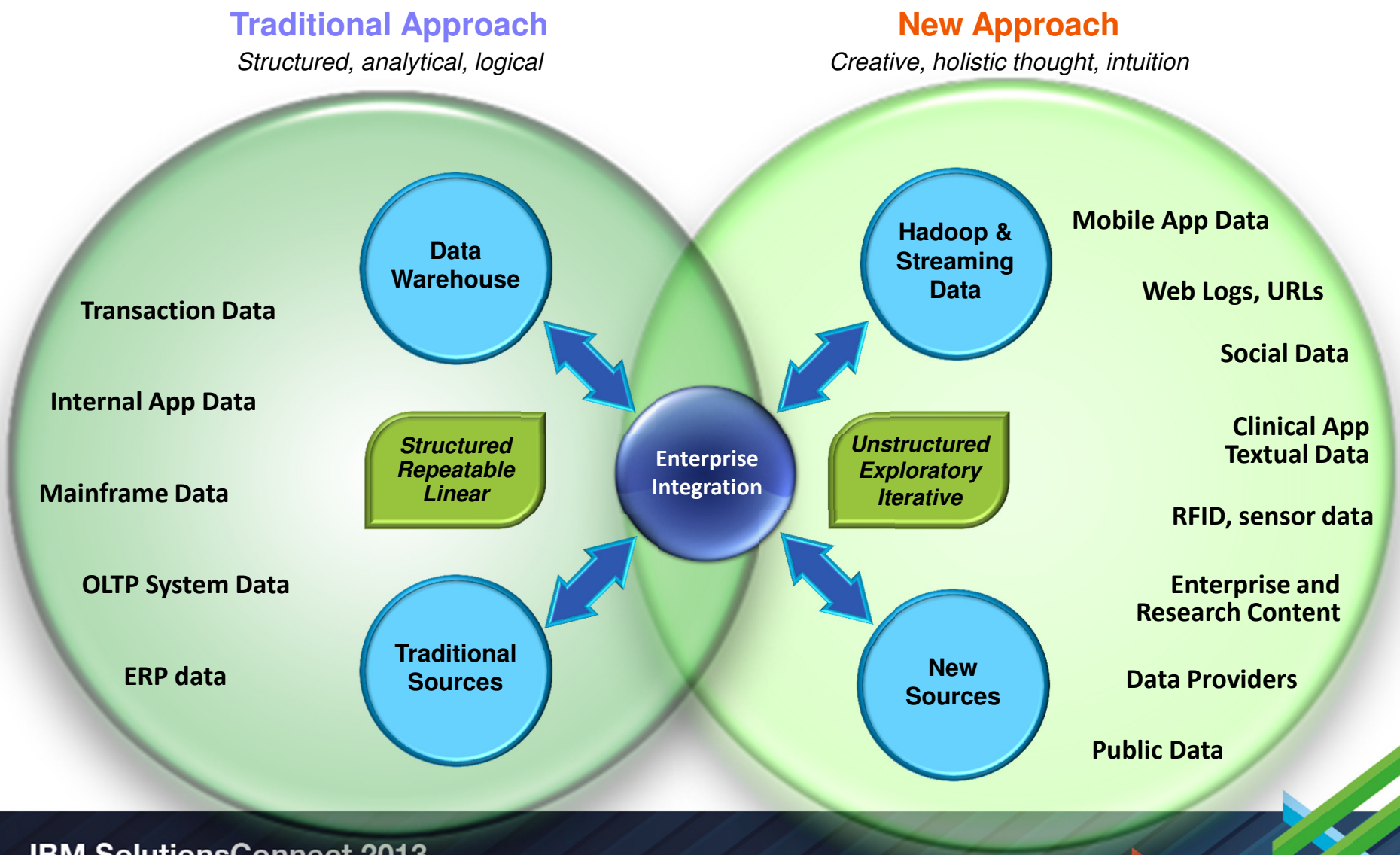
CATALINA MARKETING

*Eric Williams*
*CIO and executive VP*

# a big data architecture



# Expand from enterprise data to big data



# Start on Your Big Data Journey Today

**Know more:**

IBM Big Data:  ibm.com/bigdata

IBMBigDataHub.com

BigDataUniversity.com

IBM Institute of Business Value study

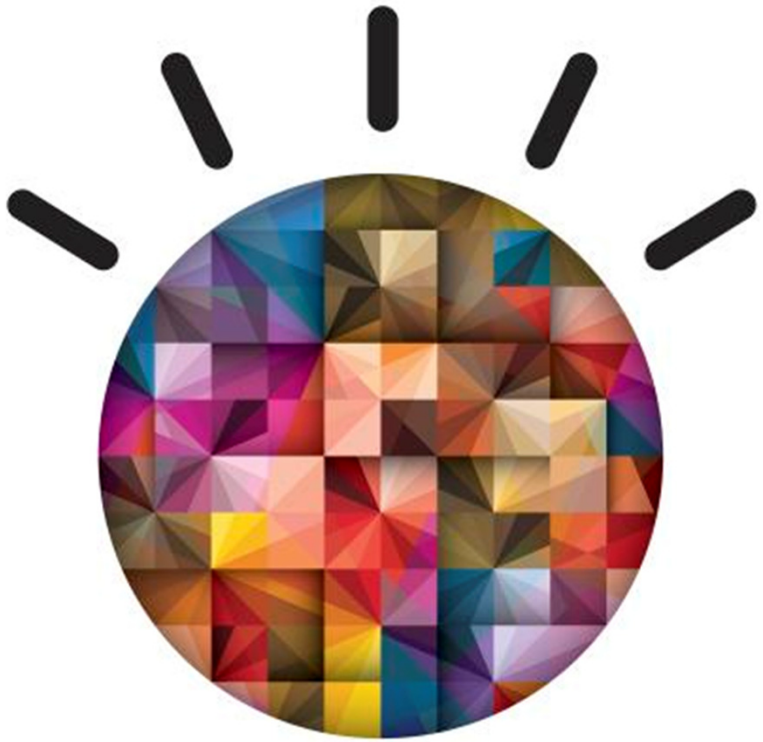
Books / analyst papers

**Schedule an IBM Big Data Workshop**

1. Best practices
2. Use cases
3. Business Value Assessment

For more information:

**ibm.com**/bigdata



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